SLEPTSOV, M.M., kandidat biologicheskikh nauk

Observations on the marine Tecticeps glober. Priroda 44 no.9:120-121
S '55.   (MLRA 8:11)

1. Institut okeanologii Akademii nauk SSSR
                     (Shellfish)

SLEPTSOV, M. M.,

"Distribution of Cetacenas in the Northwestern Part of the Pacific," Oceanographic
Research of the Northwestern Part of the Pacific Ocean, Moscow, Izd-vo AN USSR,
1958. (The article defines the territorial extent of the Pacific cetacean area,
explains the zoogeography, and describes the main types of cetaceans of this area.
A map is given.

COVERAGE: This collection articles reports are the results of observations made in
the Pacific by the Institute of Oceanology of the Academy of Sciences, USSR. In
1949, the Institute launched a systematic five-year program of scientific explora-
tion of certain hydrographic peculiarities of the Soviet Pacific area. The opera-
tions were carried out as a "Complex Oceanographic Expedition," using the motorboat
Vityaz' as its base. The Expedition worked in collaboration with the Hydrographic
Institute of the Soviet Navy (VMS), the Pacific Institute of Piscatology and Oceanog-
raphy and some 40 other institutes of the Academy of Sciences. Between 1949 and 1954,
18 trips were made, covering about 130,000 miles. Among the subjects of direct con-
cern were: meteorology, hydrology, oceanography, hydrochemistry, sedimentation, geog-
raphy of the littoral, geology and contours of the sea bottoms, fauna plankton,
microbiology, gravimetry. Twenty-eight authors contributed to the collection which
consists of 27 articles.

SLEPTSOV, M.M.

Propagation of cetaceans in the northwestern part of the Pacific
Ocean. Trudy Okean. kom. 3:130-134 '58.   (MIRA 11:8)
              (Pacific Ocean--Cetacea)

SLEPTSOV, M.M.

Procellariiformes in whaling areas of the northwestern Pacific.
Ornitologiia no.2:276-281 '59.   (MIRA 14:7)
(Pacific Ocean--Procellariiformes)

SLEPTSOV, M.M.

Buller's shearwater (Puffinus bulleri Salv.) in waters of the
U.S.S.R. Ornitologiia no.3:410-412 '60.   (MIRA 14:6)
                    (Pacific Ocean—Petrels)

SLEPTSOV, M.M.

Variations in the abundance of whales in the Chukchi Sea in different years. Trudy Inst. morf. zhiv. no.34:54-64 '61.
(MIRA 14:11)

(Chukchi Sea--Whales)

SLEPTSOV, M.M.

Feeding areas of whales in the Bering Sea.   Trudy Inst. morf.
zhiv. no.34:65-78 '61.   (MIRA 14:11)
                         (Bering Sea--Whales)

SLEPTSOV, M.M.

Distribution of feeding grounds and cetaceans in the Sea
of Okhotsk. Trudy Inst. morf. zhiv. no.34:79-92 '61.
(MIRA 14:11)

(Okhotsk, Sea of—Cetacea)
(Okhotsk, Sea of—Zooplankton)

SLEPTSOV, M.M.

Distribution of cetaceans in the Sea of Japan. Trudy Inst.
morf. zhiv. no.34:93-110 '61.   (MIRA 14:11)
                        (Japan, Sea of—Cetacea)
                        (Japan, Sea of—Zooplankton)

SLEPTSOV, M.M.

Conditions governing the existence of cetaceans in the mixing
of the cold (Kurile-Kamchatka) and the warm (Kuroshio)
currents. Trudy Inst. morf. zhiv. no.34:111-135 '61.
(MIRA 14:11)

(Pacific ocean—Zooplankton)
(Pacific ocean—Cetacea)

SLEPTSOV, M.M.

Observations on small cetacea in the Far Eastern seas and the northwestern part of the Pacific Ocean. Trudy Inst. morf. zhiv. no.34:136-143 '61. (MIRA 14:11)
(Pacific Ocean--Cetacea)

SLEPSOV, M.M.

Results of weighing large and small cetaceans caught in the
Far East. Trudy Inst. morf. zhiv. no.34:144-150 '61.
(MIRA 14:11)

(Pacific Ocean—Cetacea)

SIPOVOV, I.M.

South polar skua in the waters of the U.S.S.R. Ornitologiia no.6:422 '63.
(MIRA 17:5)

VLOKH, N.P., kand. tekhn. nauk; SLEPTSOV, M.N., inzh.

Using the shield mining system in copper mines in the Urals. Gor.
zhur. no.6:26-30 Je '64.   (MIRA 17:11)

1. Institut gornogo dela, g. Sverdlovsk (for Vlokh). 2. Ural'skiy
nauchno-issledovatel'skiy i proyektnyy institut mednoy promyshlennosti
Sverdlovsk (for Sleptsov).

KHOKHLOV, P.L.; DUBROV, V.S.; SLEPTSOV, N.I.; SAYAPIN, Yu.V.

Analysis of cupola performance with various methods of water cooling. Lit.proizv. no.7:36-37 Jl '62.   (MIRA 16:2)
                    (Cupola furnaces--Cooling)

KHOKHLOV, P.L., inzh.; DUBROV, V.S., inzh.; SLEPTSOV, N.I., inzh.;
      SAYAPIN, Yu.V.

    Operation of water-cooler cupola furnaces. Stal' 22 no.3:286–
    287 Mr '62.   (MIRA 15:3)
            (Cupola furnaces—Cooling)

SLEPTSOV, N.N., inzh.

Foremost freight service office. Zhel.dor.transp. 44 no.3:61 Mr '62.
(MIRA 15:3)

1. Zaveduyushchiy tovarnoy kontoroy stantsii Borusoglebsk.
(Borisoglebsk--Railroads--Freight)

SLEPTSOV, S.A., deputat Moskovskogo Soveta.

Supply more summer goods. Gor.khoz.Mosk. 34 no.6:36-37 Je '60.
(MIRA 13:7)

1. Chlen Postoyannoy promyshlennoy komissii Moskovskogo Soveta.
(Moscow--Retail trade)

ALEKSANDROV; S.V., kand.sel'skokhoz.nauk; BOGUSHEVSKIY, A.A., kand.tekhn. nauk; VASHCHENKO, S.F., kand.sel'skokhoz.nauk; GERASIMOV,,B.A., kand.sel'skokhoz.nauk; GROMOV, N.G. [deceased]; KORBUT, V.A.; KUDREVICH, I.A.; MAMAYEV, M.G., kand.tekhn.nauk; NOVIKOV, A.P.; OSNITSKAYA, Ye.A.; SIMANOVSKIY, A.Yu.; SLEPTSOV, S.A.; SPIRIDONOVA, A.I.; TARAKANOV, G.I., kand.sel'skokho.nauk; CHENYKAYEVA, Ye.A.; KITAYEV, S.I., red.; FILATOV, N.A., zasluzhennyy agronom RSFSR; GRUDINKINA, A.P., red.; MARTYNOV, P.V., red.; ARTSYBASHEVA, A.P., tekhn.red.; BARBASH, F.L., tekhn.red.

[Vegetable growing under cover] Ovoshchevodstvo zashchishchennogo grunta. Moskva, Izd-vo M-va sel'.khoz.SSSR, 1960. 279 p. (MIRA 13:12)

(Vegetable gardening)   (Greenhouses)
          (Hotbeds)

SLEPTSOV, V.

Collective farms of Yakutia need effective help. Sel'. strol. 11 no.12:9-10 D '56. (MLRA 10:2)

1. Nachal'nik upravleniya po stroitel'stvu v kolkhozakh pri Sovete Ministrov Yakutskoy ASSR.
            (Yakutia--Building)

SLEPTSOV, V.D., kand.tekhn.nauk

Operation of a slurry pipeline. Stal' 20 no.6:572-574 Je '60.
(MIRA 14:3)

1. Magnitogorskiy metallurgicheskiy kombinat.
(Gas purification)   (Pipelines--Cleaning)

SLEPTSOV, V.D. (Magnitogorsk)

Preventing incrustations in sludge pipes by parkerizing the pulp.
Vod. i san. tekh. no.11:27-29 N '61.   (MIRA 15:6)
          (Phosphate coating)   (Pipe)

SLEPTSOV, V.D. (Magnitogorsk)

Testing centrifugal pumps under working conditions. Vod.i san..
tekhn. no.10:26-29 O '62..   (MIRA 15:12)
(Centrifugal pumps—Testing)

SLEPTSOV, V.D., inzh. (Magnitogorsk)

Using consecutively assembled jet elevators. Vod. i san. tekh.
no.8:29-30 Ag '64   (MIRA 18:1)

L 58968-65   EPF(n)-2/EPA(w)-2/EWT(1)/EWT(m)/EWP(k)/EWP(z)/EWG(m)/EWP(b)/EWP(e)/
EWP(t) IJP(c) /Po-4/Pu-4/Pz-6 /Pf-4/Pi-4   UR/0370/65/000/003/0070/0072
ACCESSION NR: AP5017471   669:621.762.001

AUTHOR: Krasnov, A. N. (Kiev); Samsonov, G. V. (Kiev); Sleptsov, V. M. (Kiev)

TITLE: Production of copper, molybdenum, and tungsten powders by atomization with
a plasma jet

SOURCE: AN SSSR. Izvestiya. Metally, no. 3, 1965, 70-72

TOPIC TAGS: copper powder, molybdenum powder, tungsten powder, spherical particle
powder, plasma jet atomization

ABSTRACT: The production of copper, molybdenum, and tungsten powders with spherical
particles 100—400 μ in size by means of plasma-jet atomization has been inves-
tigated. Metal wire 1 mm in diameter was fed at a speed of 7.0 m/min and the plasma-
forming gas (argon) was fed under a pressure of 1.2 atm at a rate of 35 1/m. The
arc gap was 7 mm. Atomized powders were cooled in water or engine oil. The distance be-
tween the torch nozzle and the cooling medium was varied from 120 to 1500 mm. Cop-
per and molybdenum powders with spherical particles were produced with cooling in
water or oil, regardless of the distance between the torch nozzle and the cooling
medium. Tungsten powders with spherical particles were obtained when the torch

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L 58968-65

ACCESSION NR: AP5017471

nozzle was more than 1200 mm distant from the cooling medium, regardless of the nature of the cooling medium. At smaller distances the powder particles had irregular shapes. Orig. art. has: 3 figures and 1 table. [MS]

ASSOCIATION: none

SUBMITTED: 24Mar64   ENCL: 00   SUB CODE: MM,ME

NO REF SOV: 001   OTHER: 002   ATD PRESS: 4048

Card 2/2

SLEPTSOV, V.M.; SAMSONOV, G.V.

Boron nitride. Vop.por.met.i prochn.mat. no.6:65-79 '58.
(MIRA 13:4)
(Boron nitrides)

SOV/21-59-9-12/25

AUTHOR: Slyeptsov, V.M. and Samsonov, H.V.

TITLE: On the Problem of the Solubility of Boron in Silicon

PERIODICAL: Dopovidi Akademiyi nauk Ukrayins'koyi RSR, Nr 9, 1959,
            pp 982-984   (USSR)

ABSTRACT: In view of the fact that the fusions of boron and sili-
            con have not yet been sufficiently studied, although
            they are of great interest due to their high degree of
            hardness, chemical resistance $\angle$ Ref 1, 2 $\angle$ and particu-
            larly due to their semiconductor properties established
            by several scientific investigators $\angle$ Ref 3 - 6 $\angle$,
            the authors conducted investigations of some boron
            and silicon fusions in order to establish their pro-
            perties and the solubility of boron in silicon. The
            solubility of boron and silicon was investigated by
            the metallographic and X-ray methods. The results
            (Graph Nr 1) show that this solubility at room tem-
            perature constitutes nearly 0.50 wt per cent (1.2 at
Card 1/3   p.c.) and increases to 1.6 wt per cent (2.9 at p.c.)

On the Problem of the Solubility of Boron in Silicon

at a temperature of 1,200^{o} C. The data obtained on the
solubility at room temperature are close to the re-
sults of Pearson and Bardeen $\boxed{}$ Ref 6 $\boxed{}$ but differ to a
certain extent from the data of Horn $\boxed{}$ Ref 5 $\boxed{}$. The
paper also shows the existence of a eutetic correspond-
ing to 18 at. per cent of boron at a melting point of

1,370^{o}C. The course of the solubility diagram at a
higher content of boron shows the possibility of the
existence of one more chemical composition of boron
and silicon which probably can be expressed by the
formula B_3Si and which melts congruently at tempera-

tures close to 1,700 - 1,800^{o}C. This composition was
conditionally called the γ-phase. Based on the ob-
tained data, a hypothetical form is constructed for
the section of the boron-silicon system ranging up
Card 2/3   to 40 at. per cent of boron (see Graph Nr 2).

SOV/21-59-9-12/25

On the Problem of the Solubility of Boron in Silicon

There are 2 graphs and 8 references, 4 of which are Soviet, 3 English and 1 unidentified.

ASSOCIATION: Instytut metalokeramiky i spetsial'nykh splaviv AN URSR (Institute of Metal Ceramics and Special Alloys of the AS of UkrSSR)

PRESENTED: By V.N. Svyechnykov, Member, AS UkrSSR

SUBMITTED: April 13, 1959

Card 3/3

SOV/21-59-10-15/26

18(

AUTHOR: Slyeptsov V.M. and Samsonov, H.V.

TITLE: Kinetic Parameters of Boron Nitridization

PERIODICAL: Dopovidi Akademiyi nauk Ukrayins'koyi RSR, Nr 10, pp 1116-1118 (USSR) 1957

ABSTRACT: The article covers the results of an investigation conducted to study the kinetic parameters of boron nitridization. For this purpose the diffusion of nitrogen in 99.98 % – boron within a temperature range from 600 – 1500°C was studied. A sharp decrease in activation energy and diffusion rate of nitrogen into boron at a temperature higher than 1300°C is explained by the finishing of the process of rupture of covalent boron bonds and simultaneous forming of the boron nitride structure with the subsequent slow filling of the structure vacancies by nitrogen atoms. During this, the migration of nitride atoms takes place between the plane lattices of the nitride boron struc-

Card 1/3

Kinetic   Parameters of Boron Nitridization

ture. The energy of bonding between these plane lattices equals approximately 4 Kcal/mol. The temperature dependence of the diffusion coefficient within the temperature range from 600 - 1200°C is expressed as follows:

$$D_{600-1200°} = 30100 \cdot e^{-\frac{30650}{T}} ;$$

the temperature dependence within the temperature range from 1300-1500°C is

$$D_{1300-1500°} = 20.3 \cdot 10^{-5} e^{-\frac{2000}{T}}$$

Card 2/3

There are 2 graphs, and 5 references, 2 of which are Soviet, 2 German and 1 English.

Parameters of Boron Nitridization

Institut metalokeramiky i spetsial'nykh splaviv AN URSR (Institute of Metal Ceramics and Special Alloys of the AS UkrSSR)

By V.N. Svyechnikov, Member of the AS UkrSSR

March 19, 1959

15.2240

11.1380

AUTHOR: Sleptsov, V. M., Samsonov, G. V.

TITLE: Preparation of boron nitride by nitration of a mixture of boron anhydride and carbon

PERIODICAL: Zhurnal prikladnoy khimii, v. 34, no. 3, 1961, 501-505

TEXT: Based on the method proposed by A. Stähler and F. Elbert [Ref. 5: Ber., 46, 2075 (1913)] the production of boron nitride by heating boron anhydride with carbon black in a flow of nitrogen at a temperature of up to 2,040°C according to the reaction $B_2O_3 + 3C + N_2 = 2BN + 3CO$ was investigated. Boron nitride, called also "white graphite", is a crystalline substance with properties (high melting point, low thermal conductivity, high resistance to different agents etc.) which make it suitable for refractory products and also as admixture for high-temperature lubricants. Several methods are known for the preparation of boron nitride and are reviewed by the present authors in a prior paper [Ref. 1: Voprosy poroshkovoy metallurgii i prochnosti materialov (Problems in powder metallurgy and material strength), Izd. AN USSR (Ed. AS UkrSSR), 5, 66 (1958)]. The most common of these methods is nitration of boron anhydride by ammonia gas, but

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27063
S/080/61/034/003/003/017
A057/A129

Preparation of boron nitride by nitration of ...

considerable difficulties are encountered in the purification of the final product from the calcium oxide "carrier". An expedient development was made in Ställer's method by using carbon black simultaneously as "carrier" and as reducing agent for boron anhydride, but rather low (26%) yields were obtained and the product was contaminated with carbon. For this reason more detailed investigations of this procedure were made in the present work and attempts at improvement were centered on developing a better contact between the reacting solids, on establishing the optimum ratio of the reactants, and on finding optimum temperatures. Pure boric acid and lampblack was mixed (varying the ratio) during 1 hour, sieved (60 mesh sieve) and boric acid was dehydrated by heating according to M. S. Maksimenko and G. V. Samsonov [Ref. 6: Sb. "Kinetika i kataliz" ("Kinetics and Catalysis"), Izd. AN SSSR, 129 (1960)]. Thus a porous sinter product was obtained with a thin boric acid film on carbon black. The product was ground, sieved and finally nitrated. Preliminary tests demonstrated that with stoichiometric compositions (71% by weight H_3BO_3, and 29% by weight carbon black) a heavily carbon-contaminated product is obtained. Thus only 25, 20, 15 and 10% by weight carbon black was added, and the duration of grinding the sintered product increased correspondingly up to 8 - 10 hours. Results obtained in nitrations at . 500 - 1,900°C show that the reduction of B_2O_3 is

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Preparation of boron nitride by nitration ...

completed above $1,600^{\circ}$C. Maximum nitrogen content in the product is attained with 10% carbon black in the charge and decreases for 15% and 20%, and decreases sharply at 25% carbon black content. The following mechanism of reduction is proposed by the present authors: The reaction consists of the reduction of boron anhydride with carbon black to boron and subsequent carbonization or nitration of the latter. At a low carbon content in the charge all carbon is used for reduction and the excess boron anhydride evaporizes decreasing thus the yield. Increasing carbon content in the initial mixture increases the amount of reduced boron anhydride, decreases nitration degree and increases the yield. Maximum boron nitride yield is obtained at $1,600 - 1,700^{\circ}$C when high volatility of B_2O_3 is depressed by reduction and nitration. Optimum conditions for the boron nitride production are: 3 hours nitration at $1,700^{\circ}$C and a carbon black content of 15% in the initial mixture. A further improvement is effected by two-step nitration, i.e., first to $1,500^{\circ}$C and then to $1,700^{\circ}$C. The typical chemical composition of nitride obtained in this way is: 43.1 - 43.4% B, 55.2 - 55.9% N and up to 0.1% C. Corresponding experiments demonstrated in the present work that the results obtained by Stähler were insufficient, because of the small reaction surface between the reactants by simple mechanical mixing. Thus only 3-4% yields of a highly carbon-contaminated product were obtained. There are 2 figures, 1 table

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27063
S/080/61/034/003/003/017
A057/A129

Preparation of boron nitride by nitration ...

and 7 references: 5 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Institut metallokeramiki i spetsial'nykh splavov AN USSR (Institute of Powder Metallurgy and Special Alloys, AS UkrSSR)

SUBMITTED: June 24, 1960

Table: Results of nitration of sintered products of boron anhydride and carbon black in a flow of nitrogen

Card 4/5

L 18717-63   EWP(q)/EWT(m)/BDS   AFFTC/ASD   JD/JG
ACCESSION NR: AP3004360   S/0078/63/008/008/2009/2011

AUTHOR: Samsonov, G. V.; Sleptsov, V. M.   62
                                                                 60
TITLE: Study of boron solubility in silicon

SOURCE: Zhurnal neorganicheskoy khimii, v. 8, no. 8, 1963, 2009-2011

TOPIC TAGS: boron, silicon, boron solubility, alloy, preparation, homogeneity,
solubility, x-ray analysis, lattice constant, homogenizing

ABSTRACT: The solubility of boron in silicon at 25—1300C and the effect of
homogenizing time (0.5—24 hr) on the homogeneity of the resulting alloys have
been studied. Boron of 99.98% purity and single-crystal Si of 99.999% purity and
having a resistivity of 1.4—1.6 ohm cm were used. Alloys containing 0.1—10 at% B
were prepared by melting the materials at 1450C in an argon atmosphere, followed
by homogenizing at 1000, 1100, 1200 and 1300C and final quenching in oil. Homog-
enizing was carried out under argon in a resistance furnace. A specially con-
structed apparatus was used for the heating and quenching operations. The homo-
geneity of the alloys was determined by x-ray and metallographic analysis. It
was found that an equilibrium is reached after 2 hr of homogenizing; to ensure
complete homogeneity, the alloys were homogenized for a total of 8 hr. To

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L 18717-63
ACCESSION NR: AP3004360   2

determine the solubility of B in Si at room temperature, samples were homogen-
ized at 1300C for 8 hr, then gradually cooled in the furnace to 600C in 5 hr, and
finally brought to room temperature. The lattice constants of Si were calculated
from x-ray phase analysis data, with an error of ± 0.0002 Å, and are shown in
Table 1 of the Enclosure. The solubility of B in Si, determined from a plot of
lattice constant versus B content, is shown in Table 2. Lattice-constant meas-
urements for alloys containing more than 5 at% B suggested that the solubility
of B in Si at the eutectic point was about 3.6 at%. Orig. art. has: 2 figures
and 2 tables.

ASSOCIATION: none

SUBMITTED: 03Feb62   DATE ACQ: 21Aug63   ENCL: 01

SUB CODE: CH, MA   NO REF SOV: 002   OTHER: 003

Card 2/2

L 25301-65 EWT(m)/EWP(b)/EWP(t) IJP(c) JD
ACCESSION NR: AP5001592
B/0226/64/000/006/0058/0067 //6
11
B

AUTHOR: Samsonov, G. V.; Sleptsov, V. M.

TITLE: Production of boron-silicon alloys

SOURCE: Poroshkovaya metallurgiya, no. 6, 1964, 58-67

TOPIC TAGS: boron, silicon, boron alloy, silicon tetraboride, silicon hexaboride, boron silicon solubility

ABSTRACT: Four methods of obtaining boron-silicon alloys have been studied: 1) sintering of boron and silicon powder compacts; 2) melting of boron and silicon compacts in boron-nitride crucibles; 3) hot compacting of silicon and boron powder compacts in graphite dies; and 4) reduction of silicon oxide with boron in a vacuum. The first three methods produced satisfactory results. However, in hot compacting there is a danger of contamination with graphite. X-ray diffraction patterns revealed two compounds, SiB_4 and SiB_6. Individual phases had the following values of microhardness: silicon, 794 ± 40 dan/mm^2; α-phase of a solid solution of boron in silicon, 1060 ± 62 dan/mm^2; β-phase (silicon-rich), 1375 ± 99 dan/mm^2; γ-phase (SiB_4), 2000 to 2500 dan/mm^2; and δ-phase (SiB_6), 3200 to 3500 dan/mm^2. The thermal emf of boron-silicon alloys is generally lower than that of silicon. H drops to a

Card 1/2

L 25301-65
ACCESSION NR: AP5001592

minimum of 85 µv/degreeC at 15—25 at% B, rises to 110 µv/degreeC at 30—40 at% B, and drops again to 57 µv/degreeC at 75 at% B. The limit of solubility of boron in silicon was 0.81 at% at 25C, 0.92 at% at 1000C, 2.88 at% at 1300C, and 3.6 at% at 1375C (eutectic temperature). The resistivity of boron-silicon alloys decreases with increasing boron content and temperature. Orig. art. has: 6 figures and 4 tables.   [WW]

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Institute for the Study of Materials, AN UkrSSR)

SUBMITTED: 18Nov63   ENCL: 00   SUB CODE: MM

NO REF SOV: 005   OTHER: 015   ATD PRESS: 3181

Card 2/2

SAMSONOV, G.V.; SLEPTSOV, V.M.

Preparation of boron-silicon alloys. Porosh. met. 4 no.6:58-
67 N-D '64.   (MIRA 18:3)

1. Institut problem materialovedeniya AN UkrSSR.

L 32678-65   EWP(e)/EWT(m)/EPF(c)/EPF(n)-2/EPR/T/EWP(t)/EWP(k)/EWP(b)   Pf-4/
Pr-4/Ps-4/Pu-4   IJP(c)   JD/JW/JG/AT/WH

ACCESSION NR: AP5004443   S/0226/65/000/001/0079/0086

AUTHOR: Krasnov, A. N.; Sleptsov, V. M.

TITLE: Arc plasma in powder metallurgy

SOURCE: Poroshkovaya metallurgiya, no. 1, 1965, 79-86

TOPIC TAGS: powder metallurgy, arc plasma, plasmotron, titanium nitriding,
carbonitride synthesis, spheroidization, spray coating

ABSTRACT: The article is a survey dealing with the technical applications of a low-
temperature arc plasma, i.e., plasma obtained by means of electric arcs. The
existing types of plasmotrons are illustrated and their operation is described. The
composition of the plasma jet is discussed in terms of its two main parameters, the
enthalpy and the temperature. Fields of application of the arc plasma jet in powder
metallurgy are reviewed, such as nitriding of titanium and synthesis of carbonitrides
in the case of nitrogen plasma, spheroidization of oxide and carbide powder particles,
fusion of powders of high-melting metals and compounds, etc. The technique of spray
coating by means of the arc plasma jet is discussed at length, and its advantages are
listed. Orig. art. has: 8 figures and 1 table.

Card 1/2

L 32678-65

ACCESSION NR: AP5004443

ASSOCIATION: Institut problem materialovedeniya AN UkrSSR (Material Science Institute, AN UkrSSR)

SUBMITTED: 24Sep63   ENCL: 00   SUB CODE: MM, IE

NO REF SOV: 004   OTHER: 007

Card 2/2

SAMSONOV, G. V.; SLEPTSOV, V. M.; KRASNOV, A. N.; PRSHEDROMIRSKAYA, Ye. M.

"Methoden zur erzeugung kugeliger teilchen hochschmelzender metalle under verbindungen."

report submitted for 3rd Intl Conf on Powder Metallurgy, Eisenach, E. Germany, 13-15 May 1965.
Kiev, UkSSR.

KRASNOV, A.N., inzh.; SLEPTSOV, V.M., inzh.

Plasma coating of high-melting alloys. Mashinostroenie no.4:87-89
Jl-Ag '65.

(MIRA 18:8)

L 1304-66   EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EWP(i)/ETC/EPF(n)-2/EWG(m)/EWP(v)/EWP(t)/
EPA(w)-2/EWP(j)/T/EWP(k)/EWP(z)/EWP(b)   IJP(c)
ACCESSION NR: AP5022540 DS/JD/WW/JG/AT/RM/ UR/0226/65/000/009/0011/0018
WH

AUTHOR: Sleptsov, V. M.; Prshedromirskaya, Ye. M.; Kukota, Yu. P.

TITLE: Production and properties of the spheric powders of refractory compounds

SOURCE: Poroshkovaya metallurgiya, no. 9, 1965, 11-18

TOPIC TAGS: spheroidization, refractory compound, spheric metal powder, powder
metal sintering, fuel cell, plasma jet

ABSTRACT: Porous cermets made of spheric powders are used in the fabrication of
electrodes and diaphragms for chemical industry as well as catalysts and
catalyst carriers. They have made it possible to develop effective models of de-
vices for direct conversion of heat to electrical energy ("fuel cells") and re-
cently studies of the use of porous tungsten for the ionization of alkali metals
in the ion engines of space rockets have appeared. In this connection the authors
describe the techniques and means of obtaining spherical particles of certain
refractory materials as well as the properties of the obtained powders. Spheric
powders can be prepared by granulating fine-disperse powders with a binder (so-
lution of polyvinyl alcohol or synthetic rubber in gasoline, in which the fine-

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L 1304-66

9

ACCESSION NR: AP5022540

disperse powder of refractory compounds is stirred until it acquires a creamy consistency). The granulation itself is performed by means of techniques used in the production of hard alloys (pelletization via a mesh), and it is followed by sintering of the granules. In some cases where fusion of particles of refractory metals and their compounds is required, sintering may be replaced with fusion in a plasma jet. The bulk weight and shake-down weight of the spheric particles of the carbides and borides of high-melting metals are low. Flowage of spheroidized carbide powders is much higher than in the analogous boride powders; the flowage of CrB is particularly low. The state of the surface (unit surface area) is roughly the same in both borides and carbides. A determination of the density of sintered spheric powders of refractory compounds showed that, following the sintering of the particles, their residual porosity is approximately 8-18%. The least porosity (2-3%) is displayed by granulated and sintered particles of Cr_3C_2. Orig. art. has: 6 figures, 5 tables.

ASSOCIATION: Institut problem materialovedeniya AN USSR (Institute for the Study of Materials AN UkrSSR); Institut tekhnicheskoy teplofiziki AN USSR (Institute of Technical Heat Physics AN UkrSSR)

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L 1304-66

ACCESSION NR: AP5022540

SUBMITTED: 03Feb65   ENCL: 00   SUB CODE: MM

NO REF SOV: 011   OTHER: 002

Card 3/3

L 7060-66   EWP(e)/EWT(m)/EPF(c)/EWP(i)/ETC/EWG(m)/EWP(t)/EWP(k)/EWP(z)/EWP(b)

ACC NR: AP5026277 IJP(c)   JD/WW/JG/AT/WH SOURCE CODE: UR/0226/65/000/010/0085/0090

AUTHOR: Sleptsov, V. M.; Prshedromirskaya, Ye. M.; Kukota, Yu. P.

ORG: Institute of the Problems of the Science of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR)

TITLE: Porous materials from carbides and borides of transition metals

SOURCE: Poroshkovaya metallurgiya, no. 10, 1965, 85-90

TOPIC TAGS: refractory compound, refractory compound filter, filter, powder metal-lurgy, refractory metal carbide, refractory metal boride, carbide powder, boride powder, sintered metal porosity, sintered metal permeability

ABSTRACT: The methods of manufacturing porous materials from spherical powders of refractory compounds Cr_3C_2, $(TiCr)B_2$, ZrB_2, and TiC and some properties of sintered materials are described. To obtain materials with a maximum porosity and permea-bility, spherical powders activated in a solution of cobalt or nickel chloride were loosely poured into graphite molds and sintered for 30—240 min at a temperature of 0.7—0.95 T_{mel} of the respective compounds. The porosity and strength characteristics of sintered materials depended substantially on the sintering temperature. Materials and parts with a given porosity can be made expeditiously by compacting powders at a pressure of $25 \cdot 10^5$—$15 \cdot 10^7$ n/m^3 and sintering at optimum temperatures. The final porosity of sintered materials varied from 26.4 to 48.6% and more and strongly de-

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L 7060-66

ACC NR: AP5026277

pended on the compacting pressure, sintering temperature, powder grain size, and com-
pounds used. The optimum temperature and duration of sintering parts with a maximum
porosity and satisfactory strength were 1400C for 60 min for Cr_3C_2 powder, 2000C for
30 min for $(TiCr)B_2$ and ZrB_2 powders, and 2300C for 60 min for TiC powder. Permea-
bility tests conducted with nitrogen at temperatures up to 1100C showed that the
permeability of sintered materials decreased with increasing thickness of the speci-
mens and, particularly, with increasing temperature. Orig. art. has: 6 figures
and 1 table.   [MS]

SUB CODE: 11, 13/ SUBM DATE: 12Mar65/ ORIG REF: 006/ OTH REF: 001/ ATD PRESS:
4144

Card 2/2

KRASNOV, A.N.; SLEPTSOV, V.M.

Arc plasma in the metallurgy of ceramic metals. Porosh. met. 5
no.1:79 Ja '65.

(MIRA 18:10)

1. Institut problem materialovedeniya AN UkrSSR.

L 4481-66   EWT(1)/EWT(m)/FCC/T/EиA(h)   IJP(c)   GW

ACC NR: AP5024635   SOURCE CODE: UR/0048/65/029/009/1690/1692

AUTHOR: Vernov, S.N.; Yegorov, T.A.; Yegimov, N.N.; Krasil'nikov, D.D.; Kuz'min, A.I.
Maksimov, S.V.; Nesterova, N.N.; Nikol'skiy, S.I.; Sleptsov, Ye. I.; Shafer, Yu. G.

ORG: none

TITLE: Plan for a large installation at Yakutsk for study of extensive air shower
/Report, All-Union Conference on Cosmic Ray Physics held at Apatity 24-31 August 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 9, 1965, 1690-1692

TOPIC TAGS: primary cosmic ray, secondary cosmic ray, extensive air shower, spectral
energy distribution, cosmic radiation composition, cosmic radiation anisotropy

ABSTRACT: After a discussion of the significance of extensive air showers for the in-
vestigation of ultrahigh energy primary cosmic rays, the authors briefly describe an
installation to be completed in the next two or three years near sea level at latitude
62° N in the Yakutsk region; it is anticipated that the installation will yield infor-
mation concerning the energy spectrum, composition, and anisotropy of primary cosmic
rays with energies up to 10^{20} eV. The installation, intended for investigation of ex-
tensive air showers, will comprise 65 stations spread over an area of 23 km^2. Each
station will be equipped with scintillation counters with a total sensitive area of 1
m^2 or 4 m^2, and at the central station - 10 m^2. The total sensitive area of scintil-

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L 4481-55

ACC NR: AP5024635

lation counters in the whole installation will be 204 m^2. Each station will be equipped with photomultipliers (total cathode area 180 cm^2 at each station) for recording the Corenkov flash accompanying a shower. In addition, there will be muon detectors with a total sensitive area of 22 m^2. Pulses will be transmitted from the more remote stations to the central laboratory by radio. It is anticipated that this installation will record 2 x 10^5 showers per year with energies exceeding 10^{15} eV and 2 showers per year with energies exceeding 10^{20} eV. Orig. art. has: 1 figure and 1 table.

SUB CODE: NP/   SUBM DATE: 00/-   ORIG REF: 002/   OTH REF: 008

Card 2/2

SLEPTSOV, V.M.; PRSHEDROMIRSKAYA, Ye.M.; KUKOTA, Yu.P.

Porous materials of transition metal carbides and borides.
Porosh. met. 5 no.10:85-90 O '65.   (MIRA 18:11)

1. Institut problem materialovedeniya AN UkrSSR.

L 24130-66   EWP(e)/EWT(m)/T/EWP(t)   IJP(c)   JD/JG/WH
ACC NR: AP6011350   SOURCE CODE: UR/0226/66/000/003/0084/0087

AUTHOR: Prshedromirskaya, Ye. M.; Kukota, Yu. P.; Sleptsov, V. M.

ORG: Institute for Problems of Materials Science, Academy of Sciences UkrSSR (Institut problem materialovedeniya AN USSR); Institute of Technical Thermophysics, Academy of Sciences UkrSSR (Institut tekhnicheskoy teplofiziki, AN USSR)

TITLE: Strength characteristics of porous materials made of refractory compounds

SOURCE: Poroshkovaya metallurgiya, no. 3, 1966, 84-87

TOPIC TAGS: titanium carbide, titanium boride, compressive strength, bending strength, sintering, porous material

ABSTRACT: The purpose of this work was to investigate the limits of compressive strength and bending of some porous refractory compounds. The samples for compression tests were prepared in the form of cylinders measuring 8 mm in diameter and 12 mm in height, while the samples for bend tests were parallelepipeds, measuring 7 x 7 x 7 mm. TiC, WC, Cr_3C_2, ZrC, TiB_2, and ZrB_2 powders were used as initial materials. The compression and bend tests were conducted to rupture on a TsD-4 hydraulic press. The test data obtained show good correlation with the Ryshkevich curve, which can be approximated by an

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L 24130-66

ACC NR: AP6011350

equation as $\sigma = \sigma_0 e^{-BP}$, where σ is the compression strength of a porous material, σ_0 is the compression strength of a nonporous material, P is the porosity expressed in fractions, B is the numerical coefficient; usually B = 7 for experimental data for the majority of porous materials/(Ye. Ryshkevich. Compression strength of porous sintered alumina and zirconia, J. Amer. Ceram. Soc., 36, 65, 1953). The dependence of relative strength on porosity during compression for titanium, chromium, and tungsten carbides as well as titanium and zirconium borides of the 75 -- mμ fraction can be expressed by the formula $\frac{\sigma}{\sigma_0} = e^{-7P}$. There is no corresponding formula for bending tests. The relationship between the strength characteristics of the specimen and the granulometric composition of the initial powders has been established. It has been found that activated sintering of porous parts increases the strength of the parts while the porosity remains the same. Orig. art. has: 2 figures and 2 tables. [AM]

SUB CODE: 11/   SUBM DATE: 06Oct65/   ORIG REF: 005/   OTH REF: 002/

Card 2/2 AW/

TITLE: Gas permeability of porous materials made of refractory compounds

SOURCE: Poroshkovaya metallurgiya, no. 11, 1965, 32-40

TOPIC TAGS: stainless steel, reductor, gas permeability, permeability measurement, powder metallurgy, refractory compound, boride, carbide / Kh23N18 stainless steel, RS-250-58 reductor

ABSTRACT: In connection with the development of the porous cooling method, based on the blowing of gas through a porous wall to protect the wall against contact with the principal flow of hot gas and to reduce heat transfer and friction, and since the design and calculation of porous cooling systems require knowledge of hydraulic characteristics of the porous material, the auth... describe an experimental investigation of the hydraulic characteristics of pressed spe-

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cimens of the borides (Ti, Cr) B_2 and ZrB_2 and carbides WC, TiC, prepared from granulated powders (two mesh sizes: 50-75 and 75-100 μ), performed with the aid of the experimental setup shown in Fig. 1. The setup consists of a series of compressed-air cylinders 1, RS-250-58
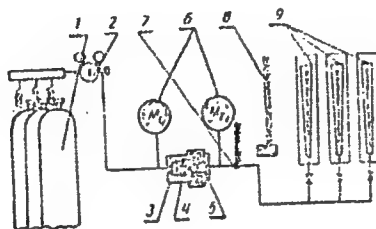

Fig. 1. Diagram of setup for investigating the permeability of porous materials:

1 - array of compressed-air cylinders; 2 - reducer; 3 - test specimen;
4 - rubber collar; 5 - cone-shaped steel yoke; 6 - standard MZM manometers;
7 - mercury thermometer; 8 - barometer; 9 - battery of RS-7, RS-5, RS-3 rotameters

? 46664-66

ACC NR: AP6009573

reductor 2, clamp 4, 5 for gripping the tested specimen 3, and measuring instruments 6-9. Compressed air is blown through the specimen and gas permeability of the specimen is measured as a function of the pressure gradient. It is found that TiC and ZrB_2 display a gas permeability that is inferior to that of WC and (Ti, Cr) B_2. The best permeability was displayed by the specimens of specially prepared porous stainless steel Kh23N18 that were investigated for comparison. It is shown that the experimental findings are in good agreement with theoretical formulas. Further, these findings indicate the presence of deviations from Darcy's law of linear dependence; hence, hydraulic characteristics cannot be expressed by the permeability coefficient alone; allowance must be also made for the coefficients of viscosity and inertial resistance (as a function of porosity of the material). Orig. art. has: 16 formulas, 1 table, 7 figures.

SUB CODE: 11, 20, 13/ SUBM DATE: 06Jan65/ ORIG REF: 008/ OTH REF: 002

Card 3/3 *esb*

L 23587-66   EWP(e)/EWT(m)/ETC(f)/EWG(m)/T/EWP(t)   JP(c)   JD/JW/HW/JG/AT/WH

ACC NR: AP6012768   SOURCE CODE: UR/0226/66/000/004/0011/0015

AUTHOR: Prshedromirskaya, Ye. M.; Sleptsov, V. M.

ORG: The Institute of Materials Science Problems, Academy of Sciences UkrSSR (Institut problem materialovedeniya AN USSR)

TITLE: Sintering of porous parts from refractory compounds

SOURCE: Poroshkovaya metallurgiya, no. 4, 1966, 11-15

TOPIC TAGS: porous metal, revractory metal, activation, sintered metal, filler

ABSTRACT: The author presents the results of an investigation of the processes of sintering some porous materials from carbides and borides of refractory metals (TiC, WC, ZrB_2, TiB_2). The kinetics of activated sintering of titanium carbide of the fraction 177 -- 420 μ is studied. The values of the activation energy of titanium carbide with additions of cobalt chloride and without it are computed. It is established that introducing fillers makes it possible to raise the porosity of the parts. Orig. art has: 5 figures, 5 formulas, and 1 table. [Based on author's abstract] [AM]

SUB CODE: 11,13/   SUBM DATE: 22Oct65/   ORIG REF: 011/   OTH REF: 001/

Card 1/1 BK

VERNOV, S.N.; YEGOROV, T.A.; YEFIMOV, N.N.; KRASIL'NIKOV, D.D.; KUZ'MIN,
A.I.; MAKSIMOV, S.V.; NESTEROVA, N.M.; NIKOL'SKIY, S.I.;
SLEPTSOV, Ye.I.; SHAFER, Yu.G.

Project of a large setup for studying extensive air showers
in Yakutsk. Izv. AN SSSR. Ser. fiz. 29 no.9:1690-1692 S '65.
                                            (MIRA 18:9)

IGONON, P.G., inzh.; SVITKIN, V.V., inzh,; MITROFANOV, M.G., kand.tekhn.nauk; SLEPTSOV, Yu.S., inzh.; KOLOZHVARI, A.A., inzh.; PASHENKO, M.A., inzh.; ZHIVOLUPOV,M.A., inzh.; Prinimali uchastiye: MUSHENKO, D.V.; TSYSKOVSKIY, V.K.; SHCHEGLOVA, TS.N.; FREYDIN, B.G.; PYL'NIKOV, V.I.; LEVINA, M.I.; LEVIN, A.I.; LUR'YE, Ye.I.; BAYKINA, T.A.; UDOVENKO, S.A; MARCHENKO, T.A.

Effect of the method of liquid paraffin oxidizing on the yield and quality of the obtained fatty acids. Masl.-zhir.prom. 28 no.11:20-23 N '62.

(MIRA 15:12)

1. Groznenskiy nauchno-issledovatel'skiy neftyanoy institut (for Igonin, Svitkin, Mirtofanov, Sleptsov, Kolozhvari, Pashenko, Zhivolupov). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut neftekhimicheskikh protsessov (for Mushenko, TSyskovskiy, Shcheglova, Freydin, Pyl'nikov, Levina, Levin).3. Lengiprogaz (for Lur'ye, Baykina). 4. VNIISINZh (for Udovenko, Marchenko).

(Paraffins)   (Acids, Fatty)

IGONIN, P.G.; SVITKIN, V.V.; SLEPTSOV, Yu.S.; KOLOZHVARI, A.A.; PASHENKO, M.A.;
GLOTSER, Ye.M.

Oxidation of naphthenic hydrocarbons. Nefteper. i neftekhim.
no.1:17-19 '63.   (MIRA 16:10)

1. Groznenskiy nauchno-issledovatel'skiy institut.

L 10227-63   EWP(j)/EPF(c)/EWT(m)/BDS---AFFTC/ASD/APGC---Pc-4/Pr-4---
RM/BM/WW/MAY/DJ   S/0065/63/000/005/0034/0038
ACCESSION NR: AP3000503

AUTHOR: Igonin, P. G.; Svitkin, V. V.; Kolozhvari, A. A.; Sleptsov, Yu. S.;
Glotser, Ye. M.

TITLE: Oxidation of isoparaffinic hydrocarbons

SOURCE: Khimiya i tekhnologiya topliv i masel, no. 5, 1963, 34-38

TOPIC TAGS: oxidation, isoparaffinic hydrocarbons, isoparaffinic acids, plastici-
zers, flotation agents, synthetic lubricant esters, motor alkylate

ABSTRACT: Isoparaffinic acids are of interest as starting materials for the pro-
duction of plasticizers, flotation agents, and synthetic lubricant esters. The
synthetic fatty acid pilot plant of GrozNII was used for oxidation of motor alky-
late containing no hydrocarbons complexing with urea. The oxidation was done with
air at 120C and a manganese-potassium soap catalyst to an acid number of 70 mg KOH
per gram. The oxidate was saponified and the acids isolated and fractionated.
Nearly 90% forms no complex with urea. When compared to fractions of synthetic
fatty acids distilling within the same limits, the acids obtained in this work have
higher acid numbers and lower pourpoints. Heat treatment strongly reduces the

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L 10227-63
ACCESSION NR: AP3000503

O

content of petroleum ether insolubles formed in the oxidation. Orig. art. has: 6
tables.

ASSOCIATION: GrozNII

SUBMITTED: 00   DATE ACQD: 12Jun63   ENCL: 00

SUB CODE: CH   NO REF SOV: 002   OTHER: 001

Card 2/2

IGONIN, P.G.; SVITKIN, V.V.; SLEPTSOV, Yu.S.; KOLOZHVARI, A.A.;
        PASHENKO, M.A.; GLOTSER, Ye.M.

   Oxidation of naphthenic hydrocarbons. Trudy GrozNII no. 15:
   298-302 '63.   (MIRA 17:5)

IGONIN, P.G.; SVITKIN, V.V.; MITROFANOV, M.G.; SLEPTSOV, Yu.S.;
    KOLOZHVARI, A.A.; PASHENKO, M.A.; ZHIVOLUPOV, M.A.

Continuous and periodic oxidation of liquid paraffins to
produce synthetic fatty acids. Trudy GrozNII no. 15·303-322
'63.   (MIRA 17:5)

ACCESSION NR: AT4016004   S/2625/63/000/015/0323/0332

AUTHOR: Igonin, P.G.; Svitkin, V.V.; Kolozhvari, A.A.; Sleptsov, Yu. S.;
Glotser, Ye. M.

TITLE: Oxidation of isoparaffinic hydrocarbons

SOURCE: Grozny*y. Neftyanoy nauchno-issledovatel'skiy institut. Trudy*,
no. 15, 1963. Tekhnologiya pererabotki nefti i gaza. Neftekhimiya (Tech-
nology of processing petroleum and gas. Petroleum chemistry), 323-332

TOPIC TAGS: hydrocarbon, hydrocarbon oxidation, organic acid, alkylate,
motor alkylate, isoparaffinic hydrocarbon

ABSTRACT: Since the paraffins which are oxidized in the production of syn-
thetic fatty acids also contain isoparaffinic hydrocarbons, the authors studied
the oxidation of a motor alkylate consisting entirely of hydrocarbons which
do not form complexes with carbamide. Both the entire motor alkylate and the
200-300C fraction were first oxidized under laboratory conditions on a glass
column at 117 or 125C, and then on the SZhK experimental apparatus at 120C with
Mn and K soaps as catalysts. The density, molecular weight, acid number,

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ACCESSION NR: AT4016004

ether number, iodine number and other characteristics of the products are tabulated for each case. The results show that motor aklylates must be oxidized under a pressure of 2-3 atm. The theoretical scheme for the preparation of acids having an iso structure is analogous to that used for the preparation of synthetic fatty acids. However, the acids obtained from motor alkylates consist almost entirely of acids which do not form complexes with carbamide. During the oxidation of isoparaffinic hydrocarbons, a large number of products which are insoluble in petroleum ether are formed, the acid content of which sharply decreases after thermal treatment. The oxidation of motor alkylates yields acids, the fractions of which are similar to the fractions of fatty acids, but which have lower solidification points and acid numbers. Orig. art. has: 8 tables.

ASSOCIATION: Neftyanoy nauchno-issledovatel'skiy institut, Grozny*y (Petroleum Scientific Research Institute)

SUBMITTED: 00   DATE ACQ: 31Jan64   ENCL: 00

SUB CODE: OC   NO REF SOV: 003   OTHER: 000

Card . 2/2

SLEPTSOV-SHEVLEVICH, B.A., inzh.

Dependence of multiannmal level variations of the sea surface on atmospheric conditions. Uch. zap. LVIMU no.13:67-73 '59.

(MIRA 13:9)

1. Kafedra gidrologii Leningradskogo vysshego inzhenernogo morskogo uchilishcha im. admirala Makarova.

(Oceanography)   (Meteorology)

ACCESSION NR: AT4015835   S/2561/63/000/014/0041/0046

AUTHOR: Sleptsov-Shevlevich, B. A.

TITLE: Short perturbations of solar activity and possible causes of the multi-value character of their relation to fluctuations of hydrometeorological elements

SOURCE: Leningrad. Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy instit... Problemy* Arktiki i Antarktiki (Problems of the Arctic and Antarctic); sb. statey, no. 14, 1963, 41-46

TOPIC TAGS: solar activity, hydrometeorology, troposhere, atmosphere, sun spot, Wolf number, air temperature, solar impulse, sun

ABSTRACT: The author begins by claiming that it has been definitely established that the tropospheric reaction to solar activity is not simple, but complex, constituting a manifestation of a certain physical autonomy of the atmosphere. The lack of constancy in the sign of the relation, the reversing of the sign of correlation functions, and occasionally the total disappearance of any relation are, apparently, the consequence of a unique and thus, incomprehensible reaction of the atmosphere to solar disturbances. The author reviews several well-known examples

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ACCESSION NR: AT4015835

of the apparent cessation of heliotropic correlations, such as the parallelism in
the behavior of sun spot curves and air temperature at moderate latitudes or the
parallelism in the behavior of Wolf number curves and the number of days with deep
cyclonic conditions during three 11-year cycles of the present century. The
author undertook an attempt to provide a possible explanation of the inconstancy
of the correlation sign between solar activity and fluctuations of climatic ele-
ments as illustrated by changes in air temperature at Barentsburg (island of
Spitzbergen) and at Berlin. Relative Wolf numbers were used as the index of
solar activity for this purpose. A periodogram analysis was made according to
the Shuster method in order to determine the structure of the 11-year cycle and
discover the dominant period of short fluctuations of solar activity; the analysis
included nine-month sliding sums of Wolf numbers, in which the influence of the
11-year cycle was excluded, and incorporated more than 2000 information units
over a period from 1749 to 1926. The nine-month sliding sums of the Wolf numbers
and air temperature were subjected to a sliding method of periodographic analysis
with a 28-month test period. Phase differences between air temperature and solar
activity were calculated by displacing one series with respect to the other with
a definite shift (one year for Barentsburg; nine months for Berlin). The author
asserts that a definite change in phase shifts between the phenomena under study
occurs with a change in the dimensions of the 28-month fluctuations of solar
Card   2/4

ACCESSION NR: · AT4015835

activity. The difference in the delay of uniform phenomena (temperature at Barentsburg and at Berlin) is, in all likelihood, caused by some as yet insufficiently understood reaction of the atmosphere to solar impulses and the subsequent mechanism whereby, by circulation, the perturbations perceived are transmitted to other regions. In fact, the author believes that under the effect of solar activity there occur in the atmosphere continuous transformations of wave processes, which attenuate or intensify as a function of the degree of active radiation originated by the sun. In other words, there is observed to some degree a macropulsation of baric formations where the same variable advection of cold or warm air masses takes place. Provided there is constancy of the general phase shift determined by the inertia of the atmosphere, it is possible that this wave process correctly follows the variable solar activity. In turn a concrete phenomenon, e.g. temperature in a concrete geographical region varies, in harmony with another, but constant, phase shift caused by geographical position. Consequently, it can only be assumed, according to the author, that the general phase shift, connected with the transmission of energy from the upper boundary of the atmosphere to the lower, does not remain constant, but is a function of the power of the solar pulse itself. Orig. art. has: 4 figures.

Card 3/4

ACCESSION NR: AT4015835

ASSOCIATION: Arkticheskiy i antarkticheskiy nauchno-issledovatel'skiy institut,
Leningrad (Arctic and Antarctic Scientific Research Institute)

SUBMITTED: 30Mar62   DATE ACQ: 02Mar64   ENCL: 00

SUB CODE: AA, ES   NO REF SOV: 009   OTHER: 001

Card   4/4

SHCHUTSKAYA, Ye.I., kand. med.nauk; MIROSHNIKOVA, M.Ya.; SOKOLOVA, R.I.;
SLEPTSOVA, A.I.

Epidemiologic significance of avian tuberculosis. Probl. tub.
no.7:10-13 '64.   (MIRA 18:10)

1. Novosibirskiy nauchno-issledovatel'skiy institut tuberkuleza
(dir.- kand. med. nauk M.V. Svirezhev).

SHUTSKAYA, Ye.I., kand. med. nauk; Prinimali uchastiye: RABINOVICH,
S.Ye., prof.; SLEPTSOVA, A.I., vrach; LIVEN, K.I., vrach;
SOKOLOVA, R.I., vrach; PEREL'MAN, R.M., vrach; AL'TMAN, I.M.,
vrach; SHEPILOV, N.S., kand. veterin. nauk; SVIRIDOV, A.A.

Epidemiological importance of tuberculosis in cattle.
Veterinariia 40 no.10:19-20 O'63.   (MIRA 17:5)

1. Novosibirskiy nauchno-issledovatel'skiy institut tuberkuleza
(all except Shepilov, Sviridov).

SLEPTSOVA, G. P.

"The Movement of a Circular Diaphragm as a Result of Pulse Action."   Cand Phys-Math Sci, Kiev State U imeni Shevchenko, 6 Dec 54. (PU, 26 Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No. 521, 2 Jun 55

SLEPTSOVA, G.P.

Plastic deformation of a round membrane subjected to static load.
Dop.AN URSR no.6:520-524 '55.   (MIRA 9:7)

1.Kiivskiy derzhavniy universitet imeni T.G.Shevshenka. Predstaviv
diyaniy chlen AN URSR O. Yu. Ishlins'kiy.
            (Elastic plates and shells)

SLEPTSOVA, G.P. [Slieptsova, H.P.]

A problem of a plastic membrane. Dop.AH URSR no.6:730-734 '60.
(MIRA 13:7)

1. Kiyevskiy inzhenerno-stroitel'nyy institut. Predstavleno
akademikom AN USSR A.Yu Ishlinskim [O.IU.Ishlins'kym].
(Elastic plates and shells)

ISHLINSKIY, A.Yu. (Kiyev); SLEPTSOVA, G.P. (Kiyev)

Impact of a viscoplastic rod on a rigid obstacle. Prikl. mekh.
1 no.2:1-9 '65.   (MIRA 18:6)

1. Institut matematiki AN UkrSSR i Kiyevskiy inzhenerno-stroi-
tel'nyy institut.

ALEKSANDROV, N.P., red.; SLEPTSOVA, K., red.; NEMYTOV, V., tekhn. red.

[Measures for introducing a scientific farming system on col-
lective and state farms of Orlov Province] Meropriiatiia po
vnedreniiu nauchno obosnovannoi sistemy vedeniia khoziaistva v
kolkhozakh i sovkhozakh Orlovskoi oblasti;; predlozheniia, razrabo-
tannye brigadoi VASKhNIL s uchastiem nauchnykh rabotnikov i spe-
tsialistov Orlovskoi oblasti. Orel, Orlovskoe knizhnoe izd-vo, 1960.
286 p.   (MIRA 14:10)

1. Rukovoditel' brigady Vsesoyuznoy akademii sel'skokhozyaystvennykh
nauk im. V.I.Lenina (for Aleksandrov).
       (Orlov Province—Agriculture)

FEDIN, Marat Aleksandrovich; SLEPTSOVA, K., red.; KUZIN, N., tekhn.
red.

[Corn] Kukuruza. Orel, Orlovskoe knizhnor izd-vo, 1963. 130 p.
(MIRA 16:12)

(Corn (Maize))

YAKOVLEV, V.A.; SLEPTSOVA, L.A.

Hyaluronic structures in nerve tissue. TSitologiia 3 no.5:605-607
S-O '61.   (MIRA 14:10)

1. Laboratoriya biokhimii biologicheski aktivnykh veshchestv
Instituta evolyutsionnoy fiziologii AN SSSR i Kafedra biokhimii
Leningradskogo universiteta.
                (HYALURONIC ACID)   (NERVES--ANATOMY)

SLEPTSOVA, L.A.

Activity and heat resistance of actomyosin isolated from white
rat muscles with a different iodine number of lipids. Sbor.
rab. Inst. tsit. no.6:217-219'63.   (MIRA 16:8)
          (ACTOMYOSINS)   (LIPIDS)
          (HEAT— PHYSIOLOGICAL EFFECT)

L 40301-65   FBD/EWT(1)/EWG(v)/EEC-4/EEC(t)   Pe-5/Pae-2/P1-4   GW/WS-4
                                               8/0269/65/000/002/0052/0052
ACCESSION NR: AR5009015

SOURCE: Ref. zh. Astronomiya. Otd. vyp., Abs. 2.51.409

AUTHOR: Kardashev, N. S.; Lozinskaya, T. A.; Sleptsova, N. P.

TITLE: Spiral structure of the Galaxy as revealed by radio observations at 21 cm

CITED SOURCE: Astron. tsirkulyar, no. 289, marta 24, 1964, 1-4

TOPIC TAGS: Galaxy, galactic structure, radio astronomy, galactic hydrogen, spiral
arm, galactic disk, Orion, Sagittarius

TRANSLATION: The authors report the results of an investigation of the spiral
structure of the Galaxy on the basis of all published radio observations at 21 cm.
The dependence of the radial velocities of hydrogen clouds on galactic longitude
has been determined. The parameters of the two branches of the logarithmic spiral
have been found for the inner parts of the Galaxy. Using the theory of a circular
model of movement of hydrogen masses the authors have constructed a spiral for the
outer regions of the Galaxy. It was found that the angle of torsion for both spi-
ral arms changes smoothly from 83° in the central part to 85° in the outer regions

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ACCESSION NR: AR5009015

of the galactic disk. The distance to the nearest outer (Orion's) arm is 800 parsecs and the nearest inner arm (Sagittarius' arm) is 900 parsecs, assuming the distance from the center of the Galaxy to the sun to be 8.2 kiloparsecs. Bibliography of 11 items. T. Lozinskaya.

SUB CODE: AA

ENCL: 00

Card 2/2

ACCESSION NR: AP4043951

S/0033/64/041/004/0601/0607

AUTHOR: Kardashev, N. S., Lozinskaya, T. A., Sleptsova, N. F.

TITLE: Spiral structure of the Galaxy from observations at 21 cm

SOURCE: Astronomicheskly zhurnal, v. 41, no. 4, 1964, 601-607

TOPIC TAGS: astronomy, Galaxy, galactic spiral, galactic disk, interstellar hydrogen

ABSTRACT: The distribution of interstellar hydrogen in the Galaxy, determined from
radio observations at 21 cm, does not reveal a clearly defined spiral structure. The
presently available pattern of distribution of hydrogen masses in the Galaxy generally
reflects reality and if there is a spiral structure the angle of torsion cannot differ greatly
from 90°. In order to clarify this problem, the authors exploited all presently known
profiles of the 21-cm line near the galactic equator. The radial velocities of the intensity
maxima of these profiles were plotted on a graph as a function of galactic longitude. This
graph, Fig. 1 of the Enclosure, represents the distribution of radial velocities of hydrogen
clouds along the galactic equator; the velocities of hydrogen clouds along the galactic
equator; the various symbols represent observations made at Leyden, Sydney, Moscow,
Bonn and in California. Fig. 1. makes it possible to distinguish the chains and loops which
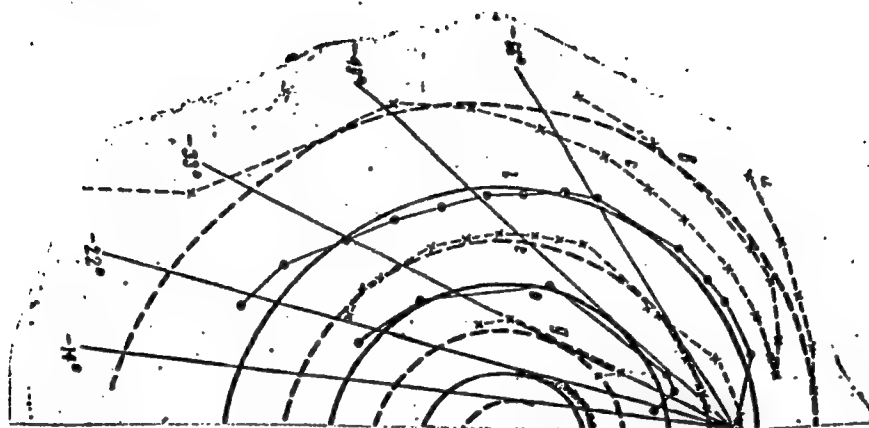
Card 1/5
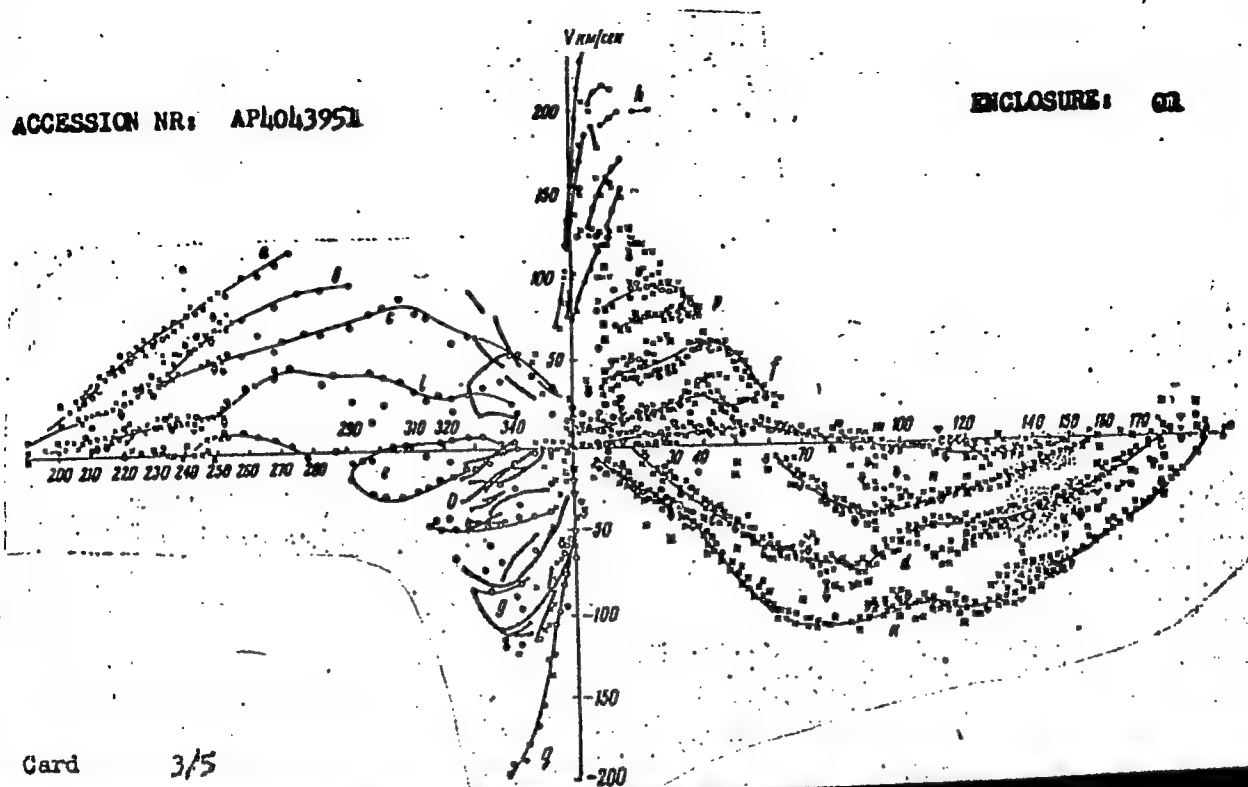
continuation from enclosure 3

Card 4/5

SHOLOMITSKIY, G.B.; SLEPTSOVA, N.F.; MATVEYENKO, L.I.

Spectra of the components of 3C 273. Astron. zhur. 42 no.6:
1135-1137 N-D '65.   (MIRA 19:1)

1. Gosudarstvennyy astronomicheskiy institut im. P.K. Shternberga i
Fizicheskiy institut AN SSSR im. P.N. Lebedeva. Submitted June 25,
1965.

S/137/62/000/003/072/191
A006/A101

/5.2400

AUTHORS: Fedorchenko, I.M. Filatova, N.A., Sleptsova, N.P., Dmitrieva, M.A.,
               Yermolin, Yu.N., Voynitskiy, A.I., Kiselev, V.P.

TITLE: Refining of molten sodium with the aid of cermet filters

TEXT: For the refining of molten Na from oxide compounds, cermet filters
were used made of reduced Fe-powder (a mixture of АПЖМ(APZhM) grade fractions).
The filters of about 40% porosity were manufactured in the form of beakers 32 and
24 mm in diameter, and 75 mm high. The blanks pressed under 2 t/cm^2 pressure
were sintered in converted gas atmosphere at 1200°C for 2 h. The hydraulic char-
acteristics of Fe-filters are given (gas and oil permeability); the degree of
refining of the filters was 5μ. As a result of using cermet filters the Na puri-
ty was raised and the quality of Ti, obtained by the method of sodium-thermal re-
duction, was improved. The filters have been reliably operating for over one
year. The efficiency of the filters is about 0.12 kg/cm$^2 \cdot$ hour at a pressure

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FILATOVA, N.A.; SLEPTSOVA, N.P.; VOYDENOV, I.I.

Use of ceramic metal plates in instrument manufacture. Porosh. met. 2 no.4:100-104 Jl-Ag '62.   (MIRA 15:8)

1. Institut metallokeramiki i spetsial'nykh splavov AN UkrSSR.
        (Instrument manufacture)   (Ceramic metals)

L 12887-63   EWP(q)/EWT(m)/BDS   AFFTC/ASD   JD/HW-2/JG
ACCESSION NR: AP3001953   S/0226/63/000/003/0052/0062

AUTHOR: Fedorchenko, I. M.; Filatova, N. A.; Dmitriyeva, N. A.; Sleptsova, N. P

TITLE: Manufacture and properties of sintered filters

SOURCE: Poroshkovaya metallurgiya; no. 3, 1963, 52-62

TOPIC TAGS: sintered filter, spherical metallic powder, inert filler, Fe, Ni, Cu, bronze, phosphorus, strength, permeability, porosity particle size

ABSTRACT: The authors investigated the method of producing sintered filters by melting metallic powder mixed with an inert filler. This mixture was heated to 373-423K above the melting temperature of the metal. Spherical powders of iron, nickel, copper and bronze were prepared by this method. Carbon black was used as a filler in processing iron powder; calcium carbonate was used with nickel powder. The best temperature for melting nickel was 1823K; for bronze, 1223K; and for copper, 1473K. Activated sintering improves the strength of products and preserves their permeability. The strength of the filters was also increased by adding ammonium phosphate, cuprous chloride and tin to the metallic powders, and became much higher than that of filters made of paper, carton, or fabric. Permeability and filtration ability of sintered filters are

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ACCESSION NR:AP3001953

determined by the shape and size of the particles from which the filters are
made. Filters with 35-40% porosity are most effective. The change of particle
size from 45 to 250-450 Microns raises the permeability up to 10 times. The
described method for obtaining spherical powders is recommended as equal to
the method of metal pulverization. Sintered filters of various permeabilities,
particle sizes, porosities, and thicknesses may be selected for different
working requirements. Orig. art. has: 13 figures and 1 table.

ASSOCIATION: Institut metallokeramiki i spetsial'ny*kh splavov AN USSR (Institute
of Metal-Ceramics and Special Alloys, Academy of Sciences AN UkrSSR)

SUBMITTED: 11Sep62   DATE ACQ: 11Jul63   ENCL: 00

SUB CODE: ML   NO REF SOV: 007   OTHER: 003

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L 46660-66   EWP(e)/EWT(m)/EWP(w)/T/EWP(t)/ETI/EWP(k)   IJP(c)   JD
ACC NR: AP6009568   (N)   SOURCE CODE: UR/0226/65/000/011/0001/0008

AUTHOR: Sleptsova, N. P.; Krasnov, A. N.; Ivashchenko, V. V.

ORG: Institute for the Study of Materials, AN UkrSSR (Institut problem materialovedeniya AN UkrSSR); Kiev Polytechnic Institute (Kiyevskiy ordena Lenina politekhnicheskiy institut)

TITLE: Production and properties of spherical-particle copper powders and copper-powder products

SOURCE: Poroshkovaya metallurgiya, no. 11, 1965, 1-8

TOPIC TAGS: spheric metal powder, copper, powder metal production, powder metal compaction

ABSTRACT: Copper powders obtained by the method of plasma-jet atomization as well as by the method of the spheroidization of nonspherical powder particles through fusion in an inert filler have particles of a more uniformly spherical shape and cleaner and smoother surface than the powders produced by the air- or water-atomization methods. The plasma-jet atomization method moreover makes it possible to utilize copper-wire wastes for the production of spherical-particle powder. This method yields a high percentage of spherical particles and

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ACC NR: AP6009568

can be adjusted to obtain the desired quantitative yield of specific particle sizes. As for the method of fusion in an inert filler (mixing of reduced Cu powder with $CaCO_3$ and heating of the mixture to 1200°C), it produces a 100% yield of spherical particles of a nearly uniform size. An investigation of the process of powder-metal forming utilizing spherical particles of this kind has shown that pressing results in products of the desired porosity, but involves deforma-tion of particles. For freely poured powder residual porosity is 40-50%. Vibration com-pacting serves to reduce porosity to 35% and is particularly effective in the fabrication of thin-walled intricate shapes. The vibration compacting of different particle sizes involves different regimes of frequency and amplitude. The process of vibration compacting may be intensified by applying small static loads. An investigation of the materials obtained by sintering powders at 1000°C following the addition of 0.3% phosphorus has shown that their strength characteristics are independent of the method of powder production (plasma-jet atomization or fusion in inert filler). Bending strength was found to be dependent on particle size, increasing from 35 to 55 kg/mm^2 with decrease in particle size from 0.3 to 0.05 mm. Orig. art. has: 5 figures and 5 tables.

SUB CODE: 11, 13/   SUBM DATE: 08May65/   ORIG REF: 011/   OTH REF: 001

Card   2/2 egh

KOPELEVICH, Aron Markovich; SLEPTSOVA, Ye., red.

[Making use of small-scale mechanization in construction]
Ispol'zovanie sredstv maloi mekhanizatsii v stroitel'stve.
Minsk, Belarus', 1964. 69 p.   (MIRA 18:6)

DMITROVICH, Aleksandr Dem'yanovich; SLEPTSOVA, Ye., red.; DOMOVSKAYA, G., tekhn. red.; STEPANOVA, N., tekhn. red.

[Heat-insulation properties of building materials and elements] Teplozashchitnye svoistva stroitel'nykh materialov i konstruktsii. Minsk, Izd-vo "Belarus'," 1963. 210 p.

(MIRA 17:3)

5.3610

78294
SOV/79-30-3-48/69

AUTHORS: Sleptsova, O. M., Koton, M. M.

TITLE: Synthesis and Polymerization of N-Acylamides of the Acrylic Series

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 972-975 (USSR)

ABSTRACT: Synthesis and polymerization of N-acetylmethacrylamide (I) and N-acetyl-α-fluoroacrylamide (II) were studied. I and II were obtained as follows:

$$CH_2=C(R)CONH_2+(CH_3CO)_2O \rightarrow CH_2=C(R)CONHCOCH_3+CH_3COOH,$$

where $R = CH_3$, F.
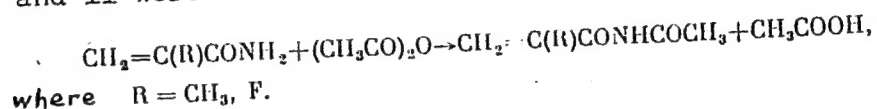
The reaction takes place at 142-145° in the presence of catalyst acetyl chloride. To prevent polymerization, small amounts of pyrogallol and copper drillings are added. I is a colorless liquid, bp 82° (2 mm), 47%

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